

does. IVH would benefit by having the group paging capability in emergent situations, allowing faster response times. It would also maintain confidentiality, as opposed to our current public address announcements.

B. Strategic Plan: How does the proposed project fit into the strategic plan of the requesting agency?

The IVH mission statement is "Caring, Our Only Reason for Being." Both of these requests would enhance services to our residents.

C. Current Technology: Provide a summary of the technology used by the current system. How does the proposed project impact the agency's technological direction? Are programming elements consistent with a Service Oriented Architecture (SOA) approach? Are programming elements consistent with existing enterprise standards?

Nurse call pocket pager upgrade: The current system is both a visual indicator outside resident rooms, as well as an audible indicator at the nurses' station. The new system would allow nursing staff to answer call lights more expediently, particularly if they are working on a different hallway than where the call light is activated. They would be paged immediately when a resident accesses the call light.

Administrative paging upgrade: We currently have a phone-based, numeric only paging system. Communication would be greatly enhanced if we were able to broadcast alpha pages via PC software, and by phone.

D. Statutory or Other Requirements

Is this project or expenditure necessary for compliance with a Federal law, rule, or order?

YES (If "Yes", cite the specific Federal law, rule or order, with a short explanation of how this project is impacted by it.)

Explanation: Nurse Call Pocket Pager Upgrade: The Centers for Medicare & Medicaid (CMS) regulations for all long-term care facilities (Section 483.70(f)) requires that residents be able to contact Nursing staff from their beds, toilets areas, and showers at all times. The pocket pager system would allow Nursing staff to respond to residents call lights in a more expedient fashion than the current audio/visual system.

Administrative Paging Upgrade: In accordance with Executive Order 12656, Presidential Decision Directive 67, all Federal organizational elements are required to have a COOP/COG Plan in place. The Directive does not mandate State or local jurisdictions to complete COOP/COG plans; however, Iowa's Governor directed that all State agencies develop viable COOP/COG plans. A major criterion of the IVH COOP/COG plan is that of communication. This will assist our COOP/COG Team, as well as our Disaster Team in more effective communication when an emergency situation arises.

Is this project or expenditure required by state law, rule or order?

YES (If "YES", cite the specific state law, rule or order, with a short explanation of how this project is impacted by it.) **Explanation:** Nurse Call Pocket Pager Upgrade: The Iowa Department of Inspections & Appeals randomly checks the length of time that it takes Nursing staff to answer a call light. The new system would enable IVH staff to monitor system activity, e.g., the time span between when the resident activates the call light and when Nursing staff de-activate it.

Administrative Paging Upgrade: The Iowa Homeland Security Emergency Management Division monitors our COOP/COG Plan, and as stated above, a major criterion of the plan is Communication.

Does this project or expenditure meet a health, safety or security requirement?

YES (If "YES", explain.) **Explanation:** The Nurse Call Pocket Pager Upgrade: Residents will receive more immediate care.

Administrative Paging Upgrade: IVH has a "Dr. Armstrong" procedure included in our Disaster Plan. This procedure is used when an actual or potential security risk involving a resident, visitor, or staff member is occurring. Currently, each member of the Dr. Armstrong Response Team is paged individually (numerically), or an announcement is made on the Public Address system. The group paging feature of the new system would expedite the response process in the Dr. Armstrong procedures, as well as all other emergency situations stated in our Disaster Plan.

Is this project or expenditure necessary for compliance with an enterprise technology standard?

YES (If "YES", cite the specific standard.)

Explanation:

[This section to be scored by application evaluator.]

Evaluation (15 Points Maximum)

If the answer to these criteria is "no," the point value is zero (0). Depending upon how directly a qualifying project or expenditure may relate to a particular requirement (federal mandate, state mandate, health-safety-security issue, or compliance with an enterprise technology standard), or satisfies more than one requirement (e.g. it is mandated by state and federal law and fulfills a health and safety mandate), 1-15 points awarded.



E. Impact on Iowa's Citizens

1. Project Participants - List the project participants (i.e. single agency, multiple agencies, State government enterprise, citizens, associations, or businesses, other levels of government, etc.) and provide commentary concerning the nature of

participant involvement. Be sure to specify who and how many **direct** users the system will impact. Also specify whether the system will be of use to other interested parties: who they may be, how many people are estimated, and how they will use the system.

IVH employees will be the users of both paging systems. IVH nursing staff responsible for answering call lights on the 15 nursing care units will carry the nurse call pocket pagers (375 pagers total).

Approximately 305 interdisciplinary staff carries the administrative pagers.

2. Service Improvements - Summarize the extent to which the project or expenditure improves service to Iowa citizens or within State government. Included would be such items as improving the quality of life, reducing the government hassle factor, providing enhanced services, improving work processes, etc.

Veterans and their dependent spouses will be the beneficiaries of the nurse call pocket paging system. Quality of life will be improved by faster response time to nurse call requests. Veterans, staff, volunteers, and visitors will be the beneficiaries of the administrative paging upgrade. IVH staff will have the ability to provide faster response time on emergent and other situations that arise.

3. Citizen Impact – Summarize how the project leads to a more informed citizenry, facilitates accountability, and encourages participatory democracy. If this is an extension of another project, what has been the adoption rate of Iowa’s citizens or government employees with the preceding project?

Citizens of Iowa will feel confident that their tax dollars are assisting in improving the quality of care for Iowa’s veterans and their spouses. Staff accountability on both systems can be monitored.

4. Public Health and/or Safety – Explain requirements or impact on the health and safety of the public.

The new nurse call pocket pager system will allow IVH Nursing staff to respond more expediently to residents’ needs.

IVH staff will have the ability to provide faster response time on emergent and other situations that arise.

[This section to be scored by application evaluator.]
Evaluation (15 Points Maximum)

- Minimally directly impacts Iowa citizens (0-5 points).
- Moderately directly impacts Iowa citizens (6-10 points).
- Significantly directly impacts Iowa citizens (11-15 points).



[This section to be scored by application evaluator.]
Evaluation (10 Points Maximum)

- Minimally improves customer service (0-3 points).
- Moderately improves customer service (4-6 points).
- Significantly improves customer service (7-10 points).



F. Process Reengineering

Provide a pre-project or pre-expenditure (before implementation) description of the impacted system or process. Be sure to include the procedures used to administer the impacted system or process and how citizens interact with the current system.

Response:

With the current nurse call system when a resident activates the call system an audio alert sounds at the nurse's station and a visual alert flashes outside the resident's door. This system requires direct care staff to be within range of the nurses' station to hear the audible alert and to see the visual alert.

With the current system when an emergency situation arises an overhead page must be made and the disaster team needs to be paged individually. This can cause unneeded delay in response and can have a profound effect on the outcome of the situation.

Provide a post-project or post-expenditure (after implementation) description of the impacted system or process. Be sure to include the procedures used to administer the impacted system or process and how citizens will interact with the proposed system. In particular, note if the project or expenditure makes use of information technology in reengineering traditional government processes.

Response:

The new system will automatically page the appropriate nursing personnel assigned to their respective residents when residents activate the nurse call system. This enables an instant alert regardless of geographical and structural boundaries.

This new system will also give us the ability to send instant broadcast pages to multiple pagers for disaster, COOP/COG, and other emergency situations. With instant group pages response time will greatly increase and our ability to handle emergency situations before they escalate or get out of control.

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- Minimal use of information technology to reengineer government processes (0-3 points).
- Moderate use of information technology to reengineer government processes (4-6 points).
- Significant use of information technology to reengineer government processes (7-10).



G. Timeline

Provide a projected timeline for this project. Include such items as **start date**, planning, database design, coding, implementation, testing, conversion, parallel installation, and date of final release. Also include the parties responsible for each item.

Administrative pager upgrade: Start date – January '08. Final Release – March '08. Responsible IVH entities – Maintenance Department and Information Technology

Nurse call pager upgrade – Start Date – March '08. Final Release – May '08. Responsible IVH entities – Maintenance Department, Information Technology, Nursing Administration

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- The timeline contains several problem areas (0-3 points).
- The timeline seems reasonable with few problem areas (4-6 points).
- The timeline seems reasonable with no problem areas (7-10).



H. Funding Requirements

On a fiscal year basis, enter the estimated cost by funding source: Be sure to include developmental costs and ongoing costs, such as those for hosting the site, maintenance, upgrades.

	FY06		FY07		FY08	
	Cost(\$)	% Total Cost	Cost(\$)	% Total Cost	Cost(\$)	% Total Cost
State General Fund	\$0	0%	\$0	0%	\$0	0%
Pooled Tech. Fund /IOWAccess Fund	\$277,977	100%	\$0	0%	\$0	0%
Federal Funds	\$0	0%	\$0	0%	\$0	0%
Local Gov. Funds	\$0	0%	\$0	0%	\$0	0%
Grant or Private Funds	\$0	0%	\$0	0%	\$0	0%
Other Funds (Specify)	\$0	0%	\$0	0%	\$0	0%
Total Project Cost	\$277,977	100%	\$0	0%	\$0	0%
Non-Pooled Tech. Total	\$0	0%	\$0	0%	\$0	0%

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- The funding request contains questionable items (0-3 points).
- The funding request seems reasonable with few questionable items (4-6 points).
- The funding request seems reasonable with no problem areas (7-10).

I. Scope

Is this project the first part of a future, larger project?

- YES (If "YES", explain.) NO, it is a stand-alone project.

Explanation:

This is a one time upgrade to our paging infrastructure and our nurse call system. There are no ongoing maintenance fees after implementation. Expected life cycle of this system is 20+ years.

Is this project a continuation of a previously begun project?

- YES (If "YES", explain.)

Explanation:

[This section to be scored by application evaluator.]

Evaluation (10 Points Maximum)

- This is the first year of a multi-year project / expenditure or project / expenditure duration is one year (0-5 points)
- The project / expenditure is of a multi-year nature and each annual component produces a definable and stand-alone outcome, result or product (2-8 points).
- This is beyond the first year of a multi-year project / expenditure (6-10 points)



The last part of this criteria involves rating the extent to which a project or expenditure is at an advanced stage of implementation and termination of the project / expenditure would waste previously invested resources.

J. Source of Funds

On a fiscal year basis, how much of the total project cost (\$ amount and %) would be absorbed by your agency from non-Pooled Technology and/or IOWAccess funds? If desired, provide additional comment / response below.

Response:

[This section to be scored by application evaluator.]

Evaluation (5 Points Maximum)

- 0% (0 points)
- 1%-12% (1 point)
- 13%-25% (2 points)
- 25%-38% (3 points)
- 39%-50% (4 points)
- Over 50% (5 points)



Section II: Financial Analysis

A. Project Budget Table

It is necessary to estimate and assign a useful life figure to each cost identified in the project budget. Useful life is the amount of time that project related equipment, products, or services are utilized before they are updated or replaced. In general, the useful life of hardware is three (3) years and the useful life of software is four (4) years. Depending upon the nature of the expense, the useful life for other project costs will vary between one (1) and four (4) years. On an exception basis, the useful life of individual project elements or the project as a whole may exceed four (4) years. Additionally, the ROI calculation must include all new annual ongoing costs that are project related.

The Total Annual Prorated Cost (State Share) will be calculated based on the following equation:

$$\left[\left(\frac{\text{Budget Amount}}{\text{Useful Life}} \right) \times \% \text{ State Share} \right] + (\text{Annual Ongoing Cost} \times \% \text{ State Share}) = \text{Annual Prorated Cost}$$

Budget Line Items	Budget Amount (1st Year Cost)	Useful Life (Years)	% State Share	Annual Ongoing Cost (After 1st Year)	% State Share	Annual Prorated Cost
Agency Staff	\$0.00	1	0.00%	\$0.0	N/A	\$0.00
Software	\$0.00	4	0.00%	\$0.0	N/A	\$0.00
Hardware	\$277,477	3	100%	\$0.0	N/A	\$277,477
Training	\$500	4	100%	\$0.0	N/A	\$500
Facilities	\$0.00	1	0.00%	\$0.0	N/A	\$0.00
Professional Services	\$0.00	4	0.00%	\$0.0	N/A	\$0.00
ITD Services	\$0.00	4	0.00%	\$0.0	N/A	\$0.00
Supplies, Maint, etc.	\$0.00	1	0.00%	\$0.0	N/A	\$0.00
Other	\$0.00	1	0.00%	\$0.0	N/A	\$0.00
Totals	\$276,977		100%	\$0.0	N/A	\$276,977

B. Spending plan

Explain how the funds will be allocated.

Pooled Tech. Funds would be applied towards implementation. The Iowa Veterans Home in turn would absorb future on-going maintenance costs.

C. Tangible and/or Intangible Benefits

Respond to the following and transfer data to the ROI Financial Worksheet as necessary:

1. Annual Pre-Project Cost - This section should be completed only if state government operations costs are expected to be reduced as a result of project implementation. **Quantify actual state government direct and indirect costs** (personnel, support, equipment, etc.) associated with the activity, system or process prior to project implementation.

Describe Annual Pre-Project Cost:

Problems and costs associated with the current call light system include: noise pollution and non-therapeutic environment, inefficiencies in addressing resident needs such as delayed response to call lights and a "general" notification (audible/visual signals) versus direct notification to a specific care giver, lack of efficient tracking system to monitor call light response time.

Quantify Annual Pre-Project Cost:

	State Total
FTE Cost(salary plus benefits):	\$771,013
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	\$0.00
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	\$0.00
Total Annual Pre-Project Cost:	\$771,013

2. Annual Post-Project Cost - This section should be completed only if state government operations costs are expected to be reduced as a result of project implementation. **Quantify actual state government direct and indirect costs** (personnel, support, equipment, etc.) associated with the activity, system or process after project implementation.

Describe Annual Post-Project Cost:

Results will include: promotion of a therapeutic environment, including noise reduction and enhanced environment for sleep; consistent and timely response by caregivers to resident needs; improved work efficiency in that call notifications are directed to individuals allowing for less interruptions in care delivery to others; will provide a database for supervisor/managerial review of regulatory compliance and provide additional data for planning of resident care.

Quantify Annual Post-Project Cost:

	State Total
FTE Cost(salary plus benefits):	\$771,013
Support Cost (i.e. office supplies, telephone, pagers, travel, etc.):	\$0.00
Other Cost (expense items other than FTEs & support costs, i.e. indirect costs if applicable, etc.):	\$0.00
Total Annual Post-Project Cost:	\$771,013

3. Citizen Benefit - Quantify the estimated annual value of the project to Iowa citizens. This includes the "hard cost" value of avoiding expenses ("hidden taxes") related to conducting business with State government. These expenses may be of a personal or business nature. They could be related to transportation, the time expended on the manual processing of governmental paperwork such as licenses or applications, taking time off work, mailing, or other similar expenses. As a "rule of thumb," use a value of \$10 per hour for citizen time.

Describe savings justification:

The ability to respond timely to resident care requests will directly impact the quality of care provided to veterans who reside at our home. In addition, the staff time

projected to be saved will allow us to redirect staff to other direct care procedures. Families, veteran organizations, and other stakeholders support our efforts to enhance direct care.

Transaction Savings	
Number of annual online transactions:	N/A
Hours saved/transaction:	N/A
Number of Citizens affected:	N/A
Value of Citizen Hour	N/A
Total Transaction Savings:	N/A
Other Savings (Describe)	N/A
Total Savings:	N/A

4. Opportunity Value/Risk or Loss Avoidance - Quantify the estimated annual non-operations benefit to State government. This could include such items as qualifying for additional matching funds, avoiding the loss of matching funds, avoiding program penalties/sanctions or interest charges, avoiding risks to health/security/safety, avoiding the consequences of not complying with State or Federal laws, providing enhanced services, avoiding the consequences of not complying with enterprise technology standards, etc.

Response:

The quality of life for our residents would be significantly improved on the units. Prompt attention and response to nurse calls would result from implementing the new system. Currently, staff must ensure the safety of the resident they are providing care before they can investigate the cause or need of the other resident(s) activating the nurse call system.

5. Benefits Not Readily Quantifiable - List and summarize the overall non-quantifiable benefits (i.e., IT innovation, unique system application, utilization of new technology, hidden taxes, improving the quality of life, reducing the government hassle factor, meeting a strategic goal, etc.).

Response:

- Customer satisfaction-Often, a focus of resident concern/complaint is timeliness of call light response. With the update to the call light system, it can be anticipated that the response time from assigned staff will be improved through the direct notification of the staff.
- Environment of care-noise/confusion- Multiple call lights continuously activated produces an environment of noise and confusion which impacts the resident’s sense of well-being. Quality of life resident surveys reveal, agency-wide, that the biggest area of satisfaction decline has been with “too much noise on my unit”. There has been a 3% decrease in satisfaction over a 3-year period. (There were no other significant decreases in satisfaction over the same 3 year period.) In addition, approximately 25% feel they do not get adequate sleep, which may be related to the noise created by the current call light system.

ROI Financial Worksheet	
A. Total Annual Pre-Project cost (State Share from Section II C1):	\$771,013
B. Total Annual Post-Project cost (State Share from Section II C2):	\$771,013
State Government Benefit (= A-B):	\$0.00
Annual Benefit Summary:	
State Government Benefit:	
Citizen Benefit:	
Opportunity Value or Risk/Loss Avoidance Benefit:	\$771,013
C. Total Annual Project Benefit:	\$771,013
D. Annual Prorated Cost (From Budget Table):	\$276,977
Benefit / Cost Ratio: (C/D) =	2.78
Return On Investment (ROI): ((C-D) / Requested Project Funds) * 100 =	178

- Consistency of care/ensuring quality- Residents rely heavily on the call light system to communicate their needs. As a result of that, we must assure that call lights are answered in a timely manner. The improvement in the call light system will allow for more accurate and a less time consuming method for unit supervisors to ensure that call lights are answered. Finally, there is the expectation by regulatory agencies, such as DIA, that resident needs are met in a timely manner. Call light response time is a key element that surveyors evaluate when questions arise regarding meeting resident needs.
- Safety-alarms/falls- The facility is charged with the safety of residents, which includes reducing the risk of falls, accidents and injuries. Many of the special bed alarms are incorporated into the call light system. If the resident activates the alarm by attempting to get up unassisted, for example, this notification will immediately go to a caregiver's pager allowing for quicker response, and potentially, the prevention of falls and injury. CMS F-tag 324 483.25(h)(2)states: "Each resident receives adequate supervision and assistance devices to prevent accidents." Further: "The intent of this provision is that the facility identifies each resident at risk for accidents and/or falls, and adequately plans care and implements procedures to prevent accidents."

[This section to be scored by application evaluator.]
Evaluation (15 Points Maximum)

- The financial analysis contains several questionable entries and provides minimal financial benefit to citizens (0-5 points).
- The financial analysis seems reasonable with few questionable entries and provides a moderate financial benefit to citizens (6-10 points).
- The financial analysis seems reasonable with no problem areas and provides maximum financial benefit to citizens (11-15).



Appendix A. Auditable Outcome Measures

For each of the following categories, list the auditable metrics for success after implementation and identify how they will be measured.

1. Improved customer service

More direct care from nursing staff to residents
(Measure the reduction in non direct care time due to gained efficiencies)

Improved charting and improved diagnosis's
(Accuracy of information confirmed by audit)

2. Citizen impact

Veteran care is improved
(Audit, infection rate, mental health statistics)

Quality of life is improved
(Family testimonial, resident testimonial)

3. Cost Savings

Greater efficiency in providing direct care

Direct care hours are increased

4. Project reengineering

The Iowa Veterans Home will be enhancing our nurse call system to improve our responsefulness to resident care requests. This will be a Revolutionary change in how we conduct business.

5. Source of funds (Budget %)

Pooled Tech funding will be used to purchase the equipment.

On-going maintenance costs will be absorbed by the Iowa Veterans Home.

6. Tangible/Intangible benefits

Veteran care is improved
(Audit, infection rate, mental health statistics)

Quality of life is improved
(Family testimonial, resident testimonial)

Greater efficiency in direct care
(Direct nursing care hours are increased)

Improved charting and improved diagnosis's
(Accuracy of information confirmed by audit)